Technical Data Sheet

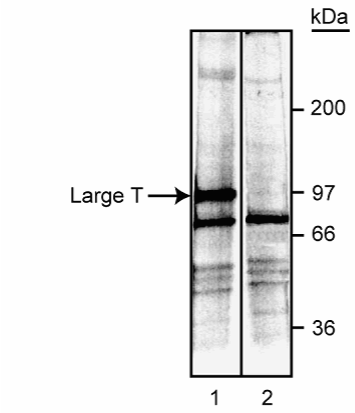
Purified Mouse Anti-SV40 Large T Antigen

Product Information

Material Number:	**554154**
Size:	0.1 mg
Concentration:	0.5 mg/ml
Clone:	PAb 100
Immunogen:	SV40-transformed BALB/c mouse cell lines
Isotype:	Mouse IgG1
Reactivity:	QC Testing: Viral-transformed cells
Target MW:	85-100 kDa
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.

Description

Simian virus 40 is a small DNA virus encoded by 5.2 kb of double-stranded DNA. SV 40 large T antigen (T-ag) is a multifunctional 85 kD phosphoprotein, which is the sole viral protein required for SV40 replication. All other factors are provided by the infected host cell. In addition to its role in SV40 DNA replication, T-ag also causes transformation of susceptible cell lines. Studies of various mutant T-ag proteins have shown that the replication and transformation fractions of T-ag can be separated. The multifunctional nature of this protein has resulted in its use as a model system in a wide variety of disciplines. SV40 T-ag exercises negative regulation on the transcription of SV40 early mRNA by feedback inhibition and exerts positive regulation on transcription from the late promoter. In addition to transcriptional regulation, T-ag is involved in viral DNA replication. Specific biochemical functions required for DNA synthesis that are inherent to the T-ag include high-affinity binding to sites within the viral origin of DNA synthesis and ATPase and helicase activities. Other functions attributed to T-ag include cellular transformation, induction of cellular DNA synthesis, induction of rRNA synthesis, and provision of a host-range function for viral replication. However, all functions of T-ag are influenced by a wide range of post-translational modifications including phosphorylation, glycosylation, acetylation, acylation, and adenylation. T-ag exists in monomeric as well as polymeric forms and associates with the tumor suppressor proteins p53 and Rb (retinoblastoma protein). Most of T-ag is transported to the nucleus, while a small fraction is localized at the cell surface. PAb 100 recognizes an epitope between amino acids 270 and 520 of T-ag. PAb 100 was originally known as clone 412. Studies have suggested that PAb 100 binds the strongest to newly synthesized T-ag and to ATPase-active T-ag in some experimental systems. In other experimental systems it appears to preferentially bind to recognize mature T-ag. PAb 100 (i.e., clone 412) was developed along with a panel of monoclonal antibodies where SV40-transformed BALB/c mouse cell lines (SVT2 or B4) were used as immunogens. The specificity of the antibody was originally characterized by a variety of techniques using SV40-infected and SV40-transformed cells.



Immunoprecipitation of large T from COS-7 cells. *PAb 100 (Cat. No. 554154); lane 1. Mouse IgG1 isotype control (lane 2).*

Preparation and Storage

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.
Store undiluted at 4°C.

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Application Notes

Application

Immunoprecipitation	Routinely Tested
Immunofluorescence	Reported
Immunohistochemistry-paraffin	Reported
Western blot	Not Recommended

Recommended Assay Procedure:

T-ag is immunoprecipitated as a single or multiple bands between about 80-95 kD depending on post-translational modifications. SV40-transformed cells such as COS-7 (ATCC CRL 1651) are suggested as positive controls. Any cell line that is not SV40-transformed or SV40-infected can be used as a negative control.

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

al-Ubaidi MR, Font RL, Quiambao AB, et al. Bilateral retinal and brain tumors in transgenic mice expressing simian virus 40 large T antigen under control of the human interphotoreceptor retinoid-binding protein promoter. *J Cell Biol.* 1992; 119(6):1681-1687.(Clone-specific: Immunohistochemistry)

Gurney EG, Harrison RO, Fenno J. Monoclonal antibodies against simian virus 40 T antigens: evidence for distinct sublcasses of large T antigen and for similarities among nonviral T antigens. *J Virol.* 1980; 34(3):752-763.(Immunogen: Immunofluorescence, Immunoprecipitation, Western blot)

Gurney EG, Tamowski S, Deppert W. Antigenic binding sites of monoclonal antibodies specific for simian virus 40 large T antigen. *J Virol.* 1986; 57(3):1168-1172.(Clone-specific: Immunoprecipitation, Western blot)

Prives C, Covey L, Scheller A, Gluzman Y. DNA-binding properties of simian virus 40 T-antigen mutants defective in viral DNA replication. *Mol Cell Biol.* 1983; 3(11):1958-1966.(Clone-specific: Immunofluorescence, Immunoprecipitation)

Scheller A, Covey L, Barnet B, Prives C. A small subclass of SV40 T antigen binds to the viral origin of replication. *Cell.* 1982; 29(2):375-383.(Clone-specific: Immunofluorescence, Immunoprecipitation)

Tack LC, Wright JH, Gurney EG. Characterization of simian virus 40 large T antigen by using different monoclonal antibodies: T-p53 complexes are preferentially ATPase active and adenylylated. *J Virol.* 1988; 62(3):1028-1037.(Clone-specific: Immunoprecipitation)

Tack LC, Wright JH, Gurney EG. Alterations in the structure of new and old forms of simian virus 40 large T antigen (T) defined by age-dependent epitope changes: new T is the same as ATPase-active T. *J Virol.* 1989; 63(5):2352-2358.(Clone-specific: Immunoprecipitation)